AFCTN Report 94-114

AFCTB-ID 94-113

Technical IGES Transfer

Using:

Texas Instruments' Data

MIL-STD-1840A

MIL-D-28000A (IGES)

Quick Short Test Report

16 August 1994

Prepared for
Electronic Systems Center
Air Force CALS Program Office
HQ ESC/AV-2
4027 Colonel Glenn Hwy Suite 300
Dayton OH 45431-1672

19960606 104

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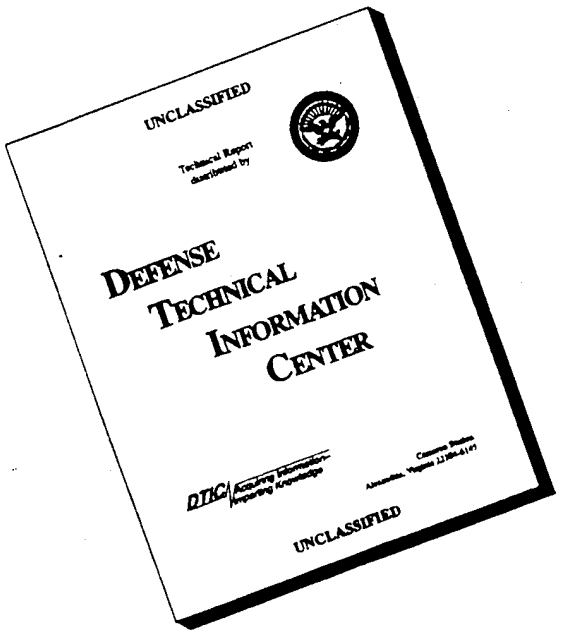

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Technical IGES Transfer
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Texas Instruments' Data:

MIL-STD-1840A
MIL-D-28000A (IGES)

Quick Short Test Report

16 August 1994

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Air Force CALS Test Bed

Notification of Test Results

16 August 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report (QSTR) evaluation of data submitted by:

Texas Instruments

Identified as follows:

Title:	**Technical IGES Transfer**
Program:	**N/A**
Program Office:	**N/A**
Contract No.:	**N/A**
QSTR No.:	**AFCTB-ID 94-113**

Received on the following media: **Electronic Transfer**

The results of the QSTR evaluation are as follows:

MIL-STD-1840A Standard	**Fail**
MIL-STD-1840A Media Format:	**Pass**
MIL-D-28000A IGES:	**Fail**
MIL-M-28001B SGML:	**N/A**
MIL-R-28002A Raster:	**N/A**
MIL-D-28003 CGM:	**N/A**

Formal results with associated disclaimer are documented and available from the AFCTB.

Air Force CALS Test Bed
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Contents

1. Introduction.....1

1.1. Background.....1

1.2. Purpose.....2

2. Test Parameters.....3

3. 1840A Analysis.....5

3.1. External Packaging.....5

3.2. Transmission Envelope.....5

3.2.1. Tape Formats.....5

3.2.2. Declaration and Header Fields.....5

4. IGES Analysis.....6

5. SGML Analysis.....8

6. Raster Analysis.....8

7. CGM Analysis.....8

8. Conclusions and Recommendations.....9

9. Appendix A - Tapetool Report Logs.....10

9.1. Tape Catalog.....10

9.2. Tape File Set Validation Log.....11

10. Appendix B - Detailed IGES Analysis.....14

10.1. File D001Q001.....14

10.1.1. Parser/Verifier Log.....14

10.1.2. Parser Log - IGESWorks.....20

10.1.3. Error Log Preview.....23

10.1.4. Output CADLeaf.....24

10.1.5. Output CALSView.....25

10.2. File D001Q002.....26

10.2.1. Parser/Verifier Log.....26

10.2.2. Parser Log - IGESWorks.....32

10.2.3. Error Log Preview.....35

10.2.4. Output CALSView for Windows.....37

10.3. File D001Q003.....38

10.3.1. Parser/Verifier Log.....38

10.3.2. Parser Log - IGESWorks.....45

10.3.3. Error Log Preview.....47

10.3.4. Output Cadkey v6.0.....48

10.3.5. Output Cadkey v6.0 Detail.....49

10.3.6. Output CALSView for Windows.....50

10.4. File D001Q004.....51

10.4.1. Parser/Verifier Log.....51

10.4.2. Parser Log - IGESWorks.....58

10.4.3. Error Log Preview.....60

10.4.4. Output CALSView for Windows.....62

10.4.5. Output IGESWorks/Arrowheads.....63

10.4.6. Output IGESWorks/Missing Arrowheads....64

10.4.7. Output Preview.....65

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Texas Instruments' interpretation and use of the CALS standards in transferring technical engineering data. Texas Instruments used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff via an electronic transfer.

2. Test Parameters

Test Plan: AFCTB 94-113

Date of Evaluation: 16 August 1994

Evaluator:
George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data Originator:
Mike Hurn
Texas Instruments
MS 8420
PO Box 869305
Plano TX 75086
(214) 575-3368

Data Description:
Technical Engineering Drawing Test
1 Document Declaration file
4 Initial Graphics Exchange Specification (IGES) files

Data Source System:

1840

HARDWARE
VAX VMS System
Sun Spark II Workstation

SOFTWARE
Texas Instruments (TI) *Tapetool*

IGES

HARDWARE
SUN Sparc

SOFTWARE
Autodesk *AutoCAD R12_c3*
ITI *IGESWorks v2.0.0*

Evaluation Tools Used:

MIL-STD-1840A (TAPE)
PC 486/50
AFCTN *Tapetool v1.2.10 DOS*

MIL-D-28000 (IGES)
HP 735
Carberry *CADLeaf 4.0*
SGI Indigo2
Cadkey *ig2c*
Cadkey *Cadkey v6.0*
IGES Data Analysis (IDA) *CALSView*
International TechneGroup Incorporated (ITI) *IGES/Works v2.0*
Sun SparcStation 2
IDA *Parser/Verifier v94*
IDA *IGESView v3.05*
Rosetta Technologies *Prepare*
Rosetta Technologies *Preview v3.2*
PC 486/50
AUTODESK *AutoCAD 386 R12*
Carberry *CADLeaf Windows*
IDA *CALSView Windows*
IDA *IGESView Windows*

Standards Tested:
MIL-STD-1840A
MIL-D-28000A

3. 1840A Analysis

3.1 External Packaging

The files arrived at the Air Force CALS Test Bed (AFCTB) via an electronic transfer to the internet server. No physical media was exchanges or evaluated.

3.2 Transmission Envelope

The transfer set received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

No tape was submitted for evaluation.

3.2.2 Declaration and Header Fields

No errors were found in the Document Declaration file or data file headers. This portion of the transfer set meets the requirements defined in CALS MIL-STD-1840A.

4. IGES Analysis

The AFCTB has several tools for viewing IGES files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The transfer set contained four IGES files. There are two sets of files in this test:

1) D001Q001 and D001Q003 come from AUTODESK's AIT directly.

2) D001Q002 is the result of running D001Q001 through ITI's IGES/Works v2.0.0 Subset Generator.
   D001Q004 is the result of running D001Q003 through ITI's IGES/Works v2.0.0 Subset Generator.

These files were evaluated using IDA's *parser/verifier* set for CALS Class II. Files D001Q001 and D001Q003 had a reported error in the IGES version used. MIL-D-28000A, amendment one permits IGES specification four and the ANSI version. The permitted values of global field 23 are six or seven.

```
    Specification version = 9 (IGES 5.1)
ERROR  4048: Illegal specification version for CALS Class II specified.
```

The start section of the files was checked for the required CALS MIL-D-28000A conformance statement. Files D001Q002 and D001Q004 had the required statement. The other two files did not have the statement.

The files were read using AUTODESK's *AutoCAD R12* with translator version 5.1. No problems were reported. The displayed and printed images were compared to the provided postscript output files without a noted error.

According to Edward Clapp of AUTODESK, "ITI puts the disclaimer in the Start Section. This is proper and appropriate, but it is not shown in the appendices nor is it noted in the body of the report.

This subset generator is responsible for placing Subfigure Instances into the IGES file prior to their corresponding Subfigure Definitions, as noted by IDA's Parser/Verifier.

There are two problems associated with D001Q001 and D001Q003. First, they were created with the (default) setting to create IGES 5.1 files; second, the Start Section does not include the statemets required for conformance to the MIL-D-28000A Class II subset. In both cases, AIT provides options, which were not chosen, to enable these requirements."

The files were converted using Cadkey's *ig2c* utility. The resulting files were read into Cadkey's *Cadkey*, displayed, and printed. No errors were noted during this process. When printed the arrowheads appear to be missing, but when a detailed area was printed the arrowheads were displayed.

The files were read into Carberry's *CADLeaf* software without a reported error. A discrepancy was noted in the text font. The plus and minus symbols were displayed as a single quote mark. It was also noted that the arrowheads in files D001Q001 and Q002 did not point to the exact location as shown in the included postscript files, or the other application outputs.

When an attempt was made to read the files into Carberry's *CADLeaf for Windows*, an error message indicating bad files was displayed. These are the same files used by all applications.

The files were read using IDA's *CALSView for Windows*. No problems were noted in the displayed or printed images.

The files were read using IDA's *IGESView* and *IGESView for Windows*. No problems were noted during this process.

The files were read using ITI's *IGESWorks* without a reported error. The files were displayed and printed. It was noted in files Q003 and Q004 that all of the arrowheads were moved to the lower left corner of the image. No arrowheads were noted in the correct locations on the drawing.

The IGES files were converted using Rosetta Technologies' *Prepare* with reported errors. All files had reported nonsupported entities. The resulting files were read into Rosetta Technologies' *Preview*, displayed and printed. Files Q003 and Q004 had noted errors in the font. The plus/minus symbols were displayed as a single quote mark.

The IGES files failed to meet the CALS MIL-D-28000A, Amendment One specification. The errors were the use of an invalid version of IGES, and missing start section conformance statements.

5. SGML Analysis

No Standard Generalized Markup Language (SGML) files were included in this evaluation.

6. Raster Analysis

No Raster files were included in this evaluation.

7. CGM Analysis

No Computer Graphics Metafiles (CGMs) were included in this evaluation.

8. Conclusions and Recommendations

No errors were noted in the CALS Document Declaration files or data file headers. This portion of the electronic data set meets the requirements defined in CALS MIL-STD-1840A.

The IGES files Q001 and Q003 did not meet the requirements of CALS MIL-D-28000A for Class II files, because the required conformance statement was missing in the start section of each file, and an illegal version of IGES was specified in each file. IGES files Q002 and Q004 did have the required conformance statement and did specify a legal version of IGES; however, IGES files Q002 and Q004 did not meet the requirements of CALS MIL-D-28000A for Class II files, because of other errors reported in Appendix B, Section 10 of this report.

The electronic data set, submitted by Texas Instruments, does not meet the CALS MIL-D-28000A requirements, due to the reported errors in the IGES files.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

```
CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (O)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Tue Aug 16 11:00:51 1994

MIL-STD-1840A File Catalog

File Set Directory: C:\TT\SET011

                                                                    Page: 1
```

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00256	02048/000000	Extracted
D001Q001	IGES	F/00080	02000/000000	Extracted
D001Q002	IGES	F/00080	02000/000000	Extracted
D001Q003	IGES	F/00080	02000/000000	Extracted
D001Q004	IGES	F/00080	02000/000000	Extracted

Catalog Process terminated normally.

9.2 Tape File Set Validation Log

```
CALS Test Network File Set Evaluation - Version 1.2; Release 10 (O)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Tue Aug 16 11:00:51 1994

MIL-STD-1840A File Set Evaluation Log

File Set: SET011

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: Texas Instruments P.O.Box 869305 Plano, TX 75086  Mail Station 8420
srcdocid: CALS TEST NETWORK MIL-D-28000 CLASS II TEST (AUTOCAD AND IGESWORKS)
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19940812
dstsys: AIR FORCE CALS TEST BED 4027 COLONEL GLENN HIGHWAY SUITE 300 DAYTON,
OHIO 45431-1672
dstdocid: TEXAS INSTRUMENTS MIL-D-28000 CLASS II TEST (AUTOCAD AND IGESWORKS)
dstrelid: NONE
dtetrn: 19940812
dlvacc: NONE
filcnt: 04
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: Product Data
docttl: NONE

Found file: D001Q001
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: NONE
dstdocid: NONE
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
notes: NONE
```

```
Saving IGES Header File: D001Q001.HDR
Saving IGES Data File: D001Q001.IGS
Found file: D001Q002
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: NONE
dstdocid: NONE
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
notes: NONE

Saving IGES Header File: D001Q002.HDR
Saving IGES Data File: D001Q002.IGS

Found file: D001Q003
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: NONE
dstdocid: NONE
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
notes: NONE

Saving IGES Header File: D001Q003.HDR
Saving IGES Data File: D001Q003.IGS

Found file: D001Q004
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: NONE
dstdocid: NONE
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
notes: NONE

Saving IGES Header File: D001Q004.HDR
Saving IGES Data File: D001Q004.IGS
```

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.
Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - Detailed IGES Analysis

10.1 File D001Q001

10.1.1 Parser/Verifier Log

```
************************************
*****  IGES PARSER/VERIFIER   *****
*****       MARCH 1994        *****
*****   IGES Data Analysis    *****
*****     (708) 344-1815      *****
************************************

Input file is d001q001.igs
Checking conformance to CALS Class II (MIL-D-28000A 2/10/92)

Today is August 16, 1994  11:23 AM

************************************
*****    CHECK FILE SYNTAX    *****
************************************

   Section        Records

   Start             11
   Global             5
   Directory       2092  (   1046 Entities)
   Parameter       2152
   Terminate          1

   No syntax errors detected.

************************************
*****  SUMMARY AND STATISTICS  ****
************************************

*** File and Product Name Information ***

   File name from sender    = '/usr3/cadds/parts/scr/4216074-c/1.igs'
   File creation Date.Time  = '940725.113515'
   Model change Date.Time   = '940725.113436'
   Author                   = 'mda drafting'
   Department               = 'ti-lewisville'
   Product name from sender = '/usr3/cadds/parts/scr/4216074-c/1'
   Destination product name = '/usr3/cadds/parts/scr/4216074-c/1'
```

```
 *** Parameter Delimiters ***

    Delimiter  = ','
    Terminator = ';'

 *** Originating System Data ***

    System ID             = 'AutoCAD-12_c3 (Sun4/SPARCstation)'
    Preprocessor version  = 'IGESOUT (v5.1.01 Feb 22 1993)'
    Specification version = 9 (IGES 5.1)
ERROR   4048: Illegal specification version for CALS Class II specified.

 *** Precision levels ***
    Integer bits =    32
    Floating point  -  Exponent =    38  Mantissa =     6
    Double precision - Exponent =    99  Mantissa =    15

 *** Global Model Data ***

    Model scale            =  1.0000E+00
    Unit flag              =  1
    Units                  =  'IN'
    Line weights           =  32767
    Maximum line thickness =  3.276700E+01
    Minimum line thickness =  1.000000E-03
    Granularity            =  3.300000E-08
    Maximum coordinate     =  3.300000E+01

    Drafting standard applicable to original data is not specified.

 *** Status Flag Summary ***

  Blank status: Visible                    1046
                Blanked                       0

  Independence: Independent                 480
                Physically Subordinate      565
                Logically Subordinate         1
                Totally Subordinate           0

  Entity use:   Geometry                    563
                Annotation                  481
                Definition                    2
                Other                         0
                Logical/Positional            0
                2D parametric                 0
                Construction geometry         0
                Not Specified                 0
```

Hierarchy:	Structure DE applies	1036
	Subordinate DE applies	10
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	3	40	Circular arc
106	63	0	4	Simple closed planar curve
106	63	4	2	
110	0	0	281	Line
110	0	1	4	
110	0	2	109	
110	0	3	106	
110	0	4	4	
124	0	0	1	Transformation matrix
212	0	1	91	General note
212	0	2	26	
212	0	3	109	
212	0	4	7	
212	0	5	230	
212	0	6	6	
212	2	3	4	General note - imbedded font change dimension
230	0	0	4	Sectioned area (Standard Crosshatching)
230	0	4	2	
308	0	0	2	Subfigure definition
404	0	0	1	Drawing
406	3	0	1	Property - Level function
406	3	1	1	
406	3	2	1	
406	3	3	1	
406	3	4	1	
406	3	5	1	
406	3	6	1	
406	15	0	1	Property - Name
406	16	0	1	Property - Drawing size
406	17	0	1	Property - Drawing units
408	0	2	1	Single subfigure instance
408	0	3	1	
410	0	0	1	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	298
1	96
2	137
3	261
4	16
5	231
6	7

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled 1046

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
40	-	-	6	-	500	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	4	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	1	-	-	-	Undefined

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	1046	(0.0010)

*** Colors Used in Data ***

Defaulted	15
Green	4
Blue	171
Yellow	757
White	99

```
 ************************************
 *****     ENTITY ANALYSIS     *****
 ************************************

 *** Entity type: 100

 *** Entity type: 106

 *** Entity type: 110

  --   504 lines averaging 2.598450E+00 units --

 *** Entity type: 124

1 transformation matrices, 1 non-zero translations.
NOTE    2341: 1 matrices contain translation information.

 *** Entity type: 212

       478 text strings in data file.
       Average text aspect ratio in file is 0.8461716.
       Minimum text aspect ratio in file is 0.2000000.
       Maximum text aspect ratio in file is 1.4365108.

       FONTS USED IN FILE

       FONT   COUNT   NAME

          1       8   Default ASCII Style
       1003     470   Drafting Font

 *** Entity type: 230

 *** Entity type: 308

  Subfigure name at D    827: 'JSOWD1'.
    Number of included entities = 404.
  Subfigure name at D   1193: '*X1'.
    Number of included entities = 150.

 *** Entity type: 404

Drawing at D   2091 contains 1 views.
Drawing at D   2091 contains 0 annotation entities.
```

```
 *** Entity type: 406

Independent property at D      5 applies to level 1.
Independent property at D     77 applies to level 2.
Independent property at D    293 applies to level 3.
Independent property at D    417 applies to level 0.
Independent property at D   1349 applies to level 4.
Independent property at D   1517 applies to level 5.
Independent property at D   1755 applies to level 6.

 *** Entity type: 408

  Subfigure instance at D    829 references subfigure at D    827.
  Subfigure instance at D   1197 references subfigure at D   1193.

 *** Entity type: 410

  Scale of view at D      1 is 1.000000E+00.
Orthographic View entity at D      1 has  0 clipping planes specified.
   XMIN = Not Set       XMAX = Not Set
   YMIN = Not Set       YMAX = Not Set
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***

4011: 1 Problems in the Global section

 *** Error Summary ***

     0 fatal errors
     0 severe errors
     1 errors
     0 warnings
     0 cautions
     0 nitpicks
     1 notes

 *** End of Analysis of d001q001.igs ***
```

10.1.2 Parser Log - IGESWorks

International TechneGroup Incorporated

Validation Logfile

Date: Tuesday August 16, 1994, 03:41 PM

Model: d001q001.igs

********** Validation Parameters **********

TOLERANCE CONFIGURATION VALUES

ZERO_TOL	= 1.000000e-13
MODEL_SPACE_PNT_COIN_TOL	= 1.000000e-03
EPSILON_TOL	= 1.000000e-08
PARM_SPACE_PNT_COIN_TOL	= 1.000000e-08
ISO_PARM_CURVE_TOL	= 1.000000e-08
NON_CONV_TOL	= 1.000000e-12
KNOT_COIN_TOL	= 1.000000e-10
SAME_INTER_TOL	= 1.000000e-12
PARALLEL_LINES_TOL	= 1.000000e-07
ANGLE_COIN_TOL	= 1.000000e-05
PNT_PROJ_TOL	= 1.000000e-07
COLIN_TOL	= 1.000000e-07
COPLANAR_TOL	= 1.000000e-08
ZERO_NORMAL_TOL	= 1.000000e-06
SAME_TANGENT_TOL	= 1.000000e-04
SAME_CURVATURE_TOL	= 1.000000e-04
SAME_DERIVATIVE_TOL	= 1.000000e-03
SINGULAR_TOL	= 1.000000e-10
MODEL_LINEAR_APPROX_TOL	= 1.000000e-03

********** Entity Listing Before Validation **********

Count	Type	Form	Description
40	100	0	Circular Arc
6	106	63	Simple Closed Planar Curve
504	110	0	Line
1	124	0	Transformation Matrix
469	212	0	General Note (Simple)
4	212	2	General Note (Font change)
6	230	0	Section Area (Standard Fill)
2	308	0	Subfigure Definition

```
     1          404           0        Drawing (form 0)
     7          406           3        Property (Level Function)
     1          406          15        Property (Name)
     1          406          16        Property (Drawing Size)
     1          406          17        Property (Drawing Units)
     2          408           0        Subfigure Instance
     1          410           0        View

  1046  -  Number of entities in selection list

************ Key to Validation Level Descriptions ***********

Severity 4 - Explicit Error
Severity 3 - Implicit Error
Severity 2 - Explicit Warning
Severity 1 - Implicit Warning

********************** Entity Validation **********************

=============== Entities Which Were Corrected ===============

=============== Entities Which Were Not Corrected ===============

*** Severity 4 (IEVM_ZERO_LENGTH_ARC_100) ***
This Circular Arc Entity (Type 100) has an effective zero length within the stated
tolerance.  Start point: %.7e, %.7e. Terminate point: %.7e, %.7e.
   Type:Form      DE #
   ---------      ----
   100:0          381
This occurred on 1 entities

*** Severity 2 (IEVM_BAD_SUBENT_308) ***
This Subfigure Definition entity (308) references an entity (DE %ld) that failed
validation.
   Type:Form      DE #
   ---------      ----
   308:0          827
This occurred on 1 entities

*** Severity 1 (IEVM_ZERO_LENGTH_110) ***
This Line entity has a zero length within the stated tolerance.
   Type:Form      DE #
   ---------      ----
   110:0          323, 359
This occurred on 2 entities

*******************************************************************************
```

Entity Validation Summary:

Type	Form	Entity Count	Number Valid	Number of Corrected Warnings	Number of Corrected Errors	Number of Uncorrected Warnings	Number of Uncorrected Errors
Global	Section	1	1	0	0	0	0
100	0	40	39	0	0	0	1
106	63	6	6	0	0	0	0
110	0	504	502	0	0	2	0
124	0	1	1	0	0	0	0
212	0	469	469	0	0	0	0
212	2	4	4	0	0	0	0
230	0	6	6	0	0	0	0
308	0	2	1	0	0	1	0
404	0	1	1	0	0	0	0
406	3	7	7	0	0	0	0
406	15	1	1	0	0	0	0
406	16	1	1	0	0	0	0
406	17	1	1	0	0	0	0
408	0	2	2	0	0	0	0
410	0	1	1	0	0	0	0
	Totals:	1047	1043	0	0	3	1

10.1.3 Error Log Preview

```
          ERROR REPORT FOR FILE  d001q001.igs

    >> File record length is 80

    Terminate section report :

                  File Section     #lines
              +-------------------------------+
              |            START       11     |
              |           GLOBAL        5     |
              |  DIRECTORY ENTRY     2092     |
              |   PARAMETER DATA     2152     |
              |        TERMINATE        1     |
              |                               |
              |          TOTAL       4261     |
              +-------------------------------+
              (Expect 80 X 4261 = 340880 bytes)

    -------------- preliminary format scan complete --------------

>> WARNING: Sectioned Area type 19 not supported
      : Reading entity #210, DE entry #419 type SECTIONED AREA.
      : Field 2, line 383 of PARAMETER DATA section.
230,415,19,0.0D0,0.0D0,0.0D0,0.0D0,0.0D0,0;                    419P    383110
     ^^
      ------------------------------------------------------------------------

                        <<<<< PART OF LOG FILE REMOVED HERE >>>>>

>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 210 for graphic output.
      ------------------------------------------------------------------------
>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 214 for graphic output.
      ------------------------------------------------------------------------

                        <<<<< PART OF LOG FILE REMOVED HERE >>>>>

    Found 0 errors and 12 warnings
```

10.1.4 Output CADLeaf

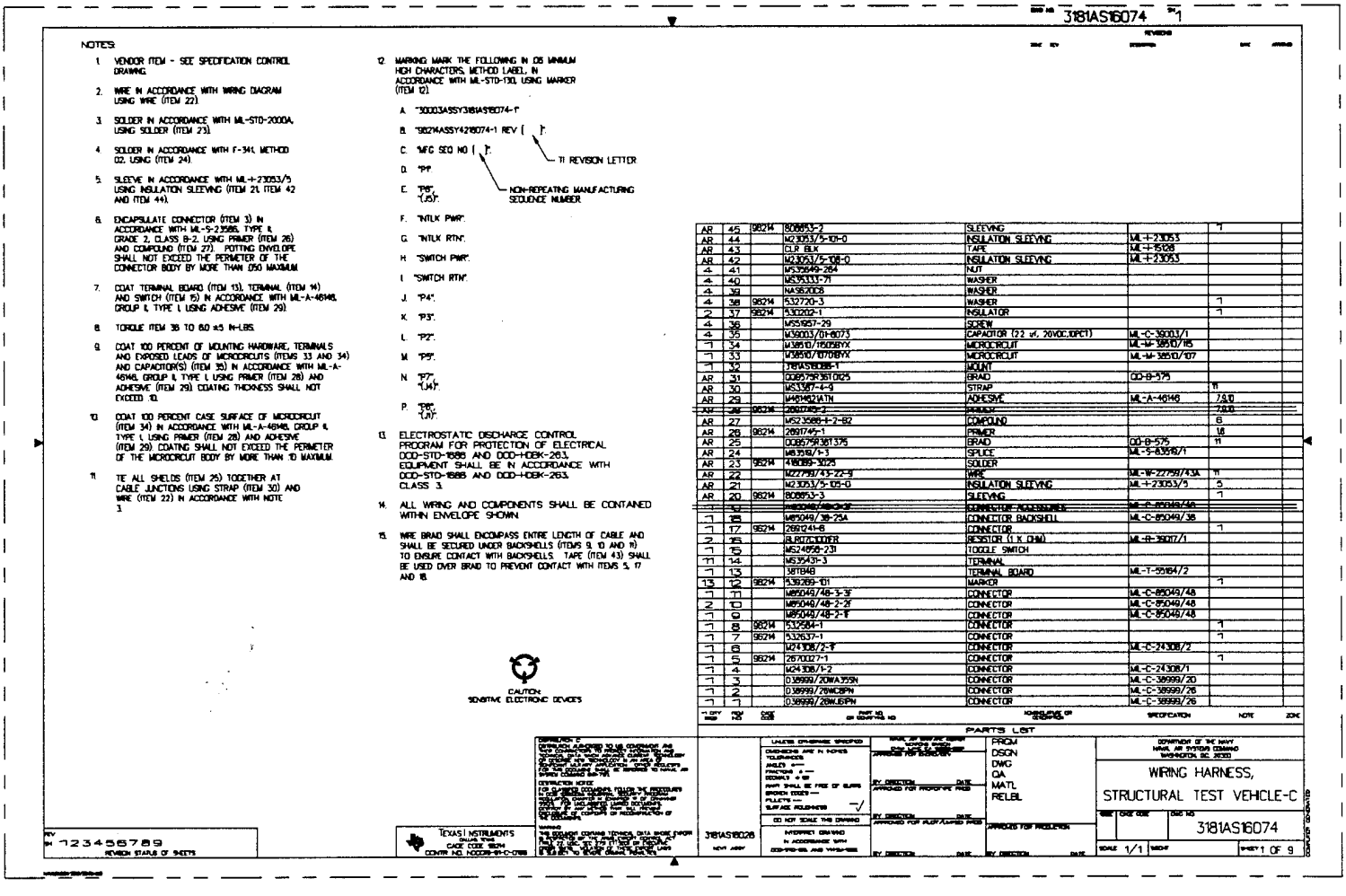
```
12.  MARKING: MARK THE FOLLOWING IN .06 MINIMUM
     HIGH CHARACTERS, METHOD LABEL, IN
     ACCORDANCE WITH MIL-STD-130, USING MARKER
     (ITEM 12).

     A.  "30003ASSY3181AS16074-1".

     B.  "96214ASSY4216074-1 REV (   )".

     C.  "MFG SEQ NO [   ]".

     D.  "P1".

     E.  "P8",
         "(J5)".

     F.  "INTLK PWR".

     G.  "INTLK RTN".

     H.  "SWITCH PWR".

     I.  "SWITCH RTN".

     J.  "P4".

     K.  "P3".

     L.  "P2".

     M.  "P5".

     N.  "P7",
         "(J4)".
```

TI REVISION LETTER.

NON-REPEATING MANUFACTURING SEQUENCE NUMBER.

AR	45	96214	806653-2
AR	44		M23053/5-
AR	43		CLR BLK
AR	42		M23053/5-
4	41		MS35649-2
4	40		MS35333-7
4	39		NAS620C6
4	38	96214	532720-3
2	37	96214	530202-1
4	36		MS51957-2
4	35		M39003/01
1	34		M38510/11!
1	33		M38510/10'
1	32		3181AS1608
AR	31		QQB575R36
AR	30		MS3367-4-
AR	29		M4614621A'

10.1.5 Output CALSView



10.2 File D001Q002

10.2.1 Parser/Verifier Log

```
************************************
*****  IGES PARSER/VERIFIER   *****
*****       MARCH 1994        *****
*****   IGES Data Analysis    *****
*****     (708) 344-1815      *****
************************************

Input file is d001q002.igs

Checking conformance to CALS Class II (MIL-D-28000A 2/10/92)

Today is August 16, 1994  11:24 AM

************************************
*****    CHECK FILE SYNTAX    *****
************************************

   Section        Records

   Start             31
   Global             5
   Directory       2092  (   1046 Entities)
   Parameter       2151
   Terminate          1

   No syntax errors detected.

************************************
*****  SUMMARY AND STATISTICS  ****
************************************

*** File and Product Name Information ***

   File name from sender    = '/usr3/cadds/parts/scr/4216074-c/1.igs'
   File creation Date.Time  = '940803.104939'
   Model change Date.Time   = ''
   Author                   = 'mda drafting'
   Department               = 'ti-lewisville'
   Product name from sender = '/usr3/cadds/parts/scr/4216074-c/1'
   Destination product name = '/usr3/cadds/parts/scr/4216074-c/1'
```

```
*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID             = 'AutoCAD-12_c3 (Sun4/SPARCstation)'
   Preprocessor version  = 'IGESOUT (v5.1.01 Feb 22 1993)'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***
   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15

*** Global Model Data ***

   Model scale             =  1.0000E+00
   Unit flag               =  1
   Units                   =  'IN'
   Line weights            =  32767
   Maximum line thickness  =  3.276700E+01
   Minimum line thickness  =  1.000000E-03
   Granularity             =  3.300000E-08
   Maximum coordinate      =  3.300000E+01

   Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

 Blank status:  Visible                    1046
                Blanked                      0

 Independence:  Independent                480
                Physically Subordinate     565
                Logically Subordinate        1
                Totally Subordinate          0

 Entity use:    Geometry                   563
                Annotation                 481
                Definition                   2
                Other                        0
                Logical/Positional           0
                2D parametric                0
                Construction geometry        0
                Not Specified                0
```

Hierarchy:	Structure DE applies	1036
	Subordinate DE applies	10
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	3	40	Circular arc
106	63	0	4	Simple closed planar curve
106	63	4	2	
110	0	0	281	Line
110	0	1	4	
110	0	2	109	
110	0	3	106	
110	0	4	4	
124	0	0	1	Transformation matrix
212	0	1	91	General note
212	0	2	26	
212	0	3	109	
212	0	4	7	
212	0	5	230	
212	0	6	6	
212	2	3	4	General note - imbedded font change dimension
230	0	0	4	Sectioned area (Standard Crosshatching)
230	0	4	2	
308	0	0	2	Subfigure definition
404	0	0	1	Drawing
406	3	0	1	Property - Level function
406	3	1	1	
406	3	2	1	
406	3	3	1	
406	3	4	1	
406	3	5	1	
406	3	6	1	
406	15	0	1	Property - Name
406	16	0	1	Property - Drawing size
406	17	0	1	Property - Drawing units
408	0	2	1	Single subfigure instance
408	0	3	1	
410	0	0	1	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	298
1	96
2	137
3	261
4	16
5	231
6	7

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled 1046

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
40	-	-	6	-	500	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	4	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	1	-	-	-	Undefined

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	1046	(0.0010)

*** Colors Used in Data ***

Defaulted	15
Green	4
Blue	171
Yellow	757
White	99

```
************************************
*****     ENTITY ANALYSIS     *****
************************************

*** Entity type: 100

*** Entity type: 106

*** Entity type: 110

 --   504 lines averaging 2.598450E+00 units --

*** Entity type: 124

WARNING 2492: Undefined line font value (0) specified for D     823.
1 transformation matrices, 1 non-zero translations.
NOTE    2341: 1 matrices contain translation information.

*** Entity type: 212

      478 text strings in data file.
      Average text aspect ratio in file is 0.8461716.
      Minimum text aspect ratio in file is 0.2000000.
      Maximum text aspect ratio in file is 1.4365108.

      FONTS USED IN FILE

      FONT   COUNT   NAME

        1       8   Default ASCII Style
     1003     470   Drafting Font

*** Entity type: 230

*** Entity type: 308

  Subfigure name at D      3: 'JSOWD1'.
    Number of included entities = 404.
WARNING 2492: Undefined line font value (0) specified for D       3.
  Subfigure name at D    825: '*X1'.
    Number of included entities = 150.
WARNING 2492: Undefined line font value (0) specified for D     825.

*** Entity type: 404

Drawing at D    1127 contains 1 views.
Drawing at D    1127 contains 0 annotation entities.
WARNING 2492: Undefined line font value (0) specified for D    1127.
```

```
 *** Entity type: 406

WARNING 2492: Undefined line font value (0) specified for D   1129.
WARNING 2492: Undefined line font value (0) specified for D   1131.
WARNING 2492: Undefined line font value (0) specified for D   1133.
Independent property at D   1145 applies to level 1.
WARNING 2492: Undefined line font value (0) specified for D   1145.
Independent property at D   1147 applies to level 2.
WARNING 2492: Undefined line font value (0) specified for D   1147.
Independent property at D   1149 applies to level 3.
WARNING 2492: Undefined line font value (0) specified for D   1149.
Independent property at D   1151 applies to level 0.
WARNING 2492: Messages regarding undefined line font suppressed.
Independent property at D   1363 applies to level 4.
Independent property at D   1525 applies to level 5.
Independent property at D   1763 applies to level 6.

 *** Entity type: 408

  Subfigure instance at D      1 references subfigure at D      3.
ERROR   2266: Subfigure definition (D      3) follows instance entity at D
              1.
  Subfigure instance at D    821 references subfigure at D    825.
ERROR   2266: Subfigure definition (D    825) follows instance entity at D
              821.

 *** Entity type: 410

  Scale of view at D   1135 is 1.000000E+00.
Orthographic View entity at D   1135 has  0 clipping planes specified.
   XMIN = Not Set       XMAX = Not Set
   YMIN = Not Set       YMAX = Not Set
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***

2038: 15 Invalid Line font values.

 *** Error Summary ***

     0 fatal errors
     0 severe errors
     2 errors
    15 warnings
     0 cautions
     0 nitpicks
     1 notes
 *** End of Analysis of d001q002.igs ***
```

10.2.2 Parser Log - IGESWorks

International TechneGroup Incorporated
Validation Logfile

Date: Tuesday August 16, 1994, 03:42 PM
Model: d001q002.igs

********** Validation Parameters **********

TOLERANCE CONFIGURATION VALUES

ZERO_TOL	= 1.000000e-13
MODEL_SPACE_PNT_COIN_TOL	= 1.000000e-03
EPSILON_TOL	= 1.000000e-08
PARM_SPACE_PNT_COIN_TOL	= 1.000000e-08
ISO_PARM_CURVE_TOL	= 1.000000e-08
NON_CONV_TOL	= 1.000000e-12
KNOT_COIN_TOL	= 1.000000e-10
SAME_INTER_TOL	= 1.000000e-12
PARALLEL_LINES_TOL	= 1.000000e-07
ANGLE_COIN_TOL	= 1.000000e-05
PNT_PROJ_TOL	= 1.000000e-07
COLIN_TOL	= 1.000000e-07
COPLANAR_TOL	= 1.000000e-08
ZERO_NORMAL_TOL	= 1.000000e-06
SAME_TANGENT_TOL	= 1.000000e-04
SAME_CURVATURE_TOL	= 1.000000e-04
SAME_DERIVATIVE_TOL	= 1.000000e-03
SINGULAR_TOL	= 1.000000e-10
MODEL_LINEAR_APPROX_TOL	= 1.000000e-03

********** Entity Listing Before Validation **********

Count	Type	Form	Description
40	100	0	Circular Arc
6	106	63	Simple Closed Planar Curve
504	110	0	Line
1	124	0	Transformation Matrix
469	212	0	General Note (Simple)
4	212	2	General Note (Font change)
6	230	0	Section Area (Standard Fill)
2	308	0	Subfigure Definition
1	404	0	Drawing (form 0)
7	406	3	Property (Level Function)

```
        1          406          15          Property (Name)
        1          406          16          Property (Drawing Size)
        1          406          17          Property (Drawing Units)
        2          408           0          Subfigure Instance
        1          410           0          View

     1046  -  Number of entities in selection list

   ************ Key to Validation Level Descriptions ***********

   Severity 4 - Explicit Error
   Severity 3 - Implicit Error
   Severity 2 - Explicit Warning
   Severity 1 - Implicit Warning


   ********************** Entity Validation **********************

   =============== Entities Which Were Corrected ===============

   =============== Entities Which Were Not Corrected ===============

*** Severity 4 (IEVM_ZERO_LENGTH_ARC_100) ***
This Circular Arc Entity (Type 100) has an effective zero length within the stated
tolerance.  Start point: %.7e, %.7e. Terminate point: %.7e, %.7e.
      Type:Form      DE #
      ---------      ----
      100:0          377
   This occurred on 1 entities

*** Severity 2 (IEVM_BAD_SUBENT_308) ***
This Subfigure Definition entity (308) references an entity (DE %ld) that failed
validation.
      Type:Form      DE #
      ---------      ----
      308:0          3
   This occurred on 1 entities

*** Severity 1 (IEVM_ZERO_LENGTH_110) ***
This Line entity has a zero length within the stated tolerance.
      Type:Form      DE #
      ---------      ----
      110:0          319, 355
   This occurred on 2 entities

********************************************************************************
```

Entity Validation Summary:

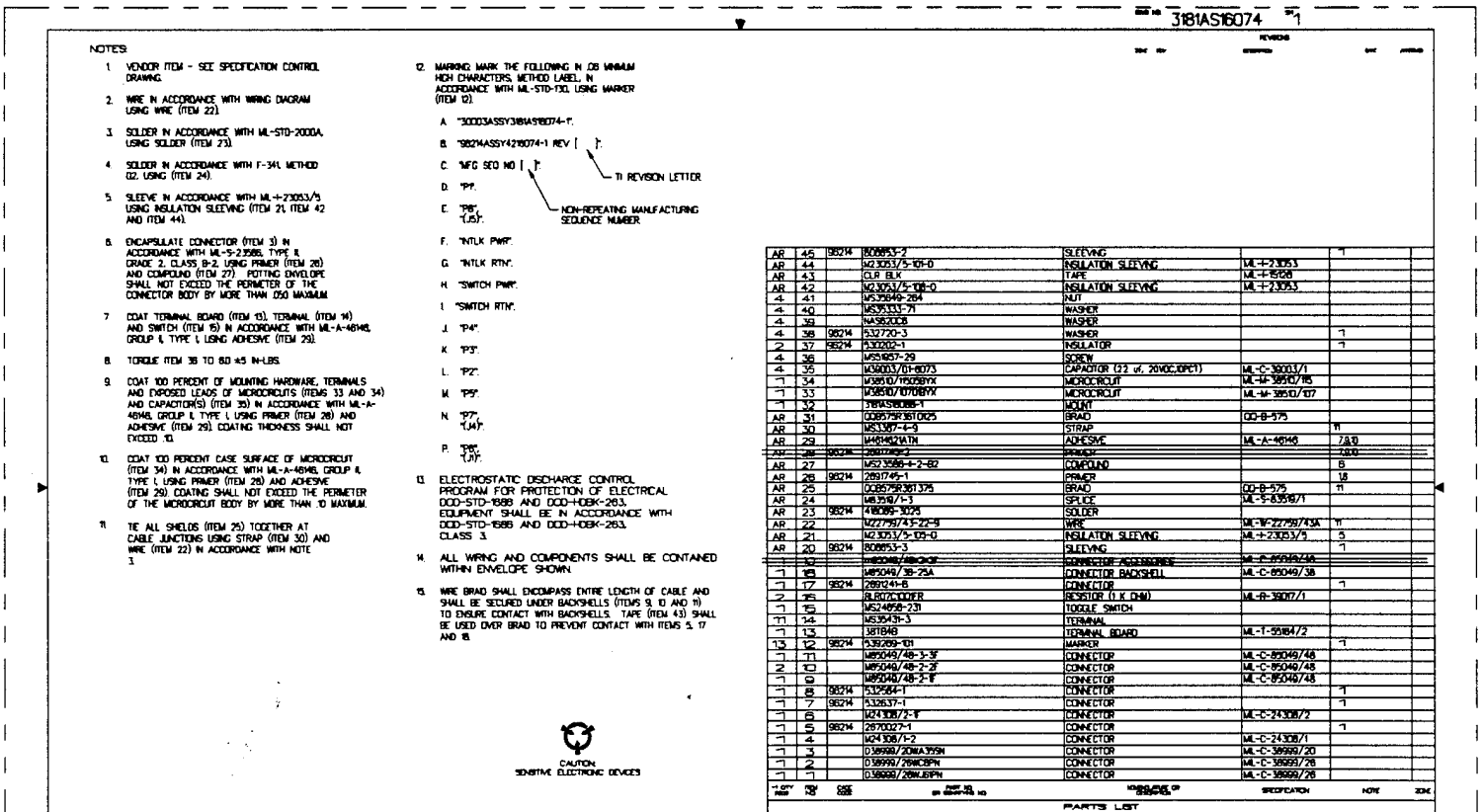
Type	Form	Entity Count	Number Valid	Number of Corrected Warnings	Number of Corrected Errors	Number of Uncorrected Warnings	Number of Uncorrected Errors
Global	Section	1	1	0	0	0	0
100	0	40	39	0	0	0	1
106	63	6	6	0	0	0	0
110	0	504	502	0	0	2	0
124	0	1	1	0	0	0	0
212	0	469	469	0	0	0	0
212	2	4	4	0	0	0	0
230	0	6	6	0	0	0	0
308	0	2	1	0	0	1	0
404	0	1	1	0	0	0	0
406	3	7	7	0	0	0	0
406	15	1	1	0	0	0	0
406	16	1	1	0	0	0	0
406	17	1	1	0	0	0	0
408	0	2	2	0	0	0	0
410	0	1	1	0	0	0	0
	Totals:	1047	1043	0	0	3	1

10.2.3 Error Log Preview

```
            ERROR REPORT FOR FILE  d001q002.igs

     >> File record length is 80

     Terminate section report :

                    File Section     #lines
               +-------------------------------+
               |            START       31     |
               |           GLOBAL        5     |
               |  DIRECTORY ENTRY     2092     |
               |   PARAMETER DATA     2151     |
               |        TERMINATE        1     |
               |                               |
               |          TOTAL       4280     |
               +-------------------------------+
               (Expect 80 X 4280 = 342400 bytes)

     -------------- preliminary format scan complete --------------

>> WARNING: Cannot use maximum power of 10 requested.
      : Requested maximum power of 308 using 307.
      : Field 11 line 3 of GLOBAL section. (Max. Exp. for Double)
1993),32,38,6,308,15,33H/usr3/cadds/parts/scr/4216074-c/1,1.0D0,1,2HIN, G      3
^^^
      ----------------------------------------------------------------------
>> WARNING: Sectioned Area type 19 not supported
      : Reading entity #206, DE entry #411 type SECTIONED AREA.
      : Field 2, line 402 of PARAMETER DATA section.
230,413,19,0.0D0,0.0D0,0.0D0,0.0D0,0.0D0,0;                    411P    402106
^^
      ----------------------------------------------------------------------
>> WARNING: Sectioned Area type 19 not supported
      : Reading entity #210, DE entry #419 type SECTIONED AREA.
      : Field 2, line 407 of PARAMETER DATA section.
230,421,19,0.0D0,0.0D0,0.0D0,0.0D0,0.0D0,0;                    419P    407106
^^
      ----------------------------------------------------------------------
>> WARNING: Sectioned Area type 19 not supported
      : Reading entity #212, DE entry #423 type SECTIONED AREA.
      : Field 2, line 410 of PARAMETER DATA section.
230,425,19,0.0D0,0.0D0,0.0D0,0.0D0,0.0D0,0;                    423P    410106
^^
      ----------------------------------------------------------------------
```

```
>> WARNING: Sectioned Area type 19 not supported
      : Reading entity #215, DE entry #429 type SECTIONED AREA.
      : Field 2, line 414 of PARAMETER DATA section.
230,431,19,0.0D0,0.0D0,0.0D0,0.0D0,0.0D0,0;                    429P    414106
^^
      ------------------------------------------------------------------------
>> WARNING: Sectioned Area type 19 not supported
      : Reading entity #569, DE entry #1137 type SECTIONED AREA.
      : Field 2, line 1123 of PARAMETER DATA section.
230,1139,19,0.0D0,0.0D0,0.0D0,0.0D0,0.0D0,0;                  1137P   1123106
^^
      ------------------------------------------------------------------------
>> WARNING: Sectioned Area type 19 not supported
      : Reading entity #571, DE entry #1141 type SECTIONED AREA.
      : Field 2, line 1127 of PARAMETER DATA section.
230,1143,19,0.0D0,0.0D0,0.0D0,0.0D0,0.0D0,0;                  1141P   1127106
^^
      ------------------------------------------------------------------------
>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 206 for graphic output.
      ------------------------------------------------------------------------
>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 210 for graphic output.
      ------------------------------------------------------------------------
>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 212 for graphic output.
      ------------------------------------------------------------------------
>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 215 for graphic output.
      ------------------------------------------------------------------------
>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 569 for graphic output.
      ------------------------------------------------------------------------
>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 571 for graphic output.
      ------------------------------------------------------------------------

     Found 0 errors and 13 warnings
```

10.2.4 Output CALSView for Windows



3181AS16074

NOTES:

1. VENDOR ITEM - SEE SPECIFICATION CONTROL DRAWING.
2. WIRE IN ACCORDANCE WITH WIRING DIAGRAM USING WIRE (ITEM 22).
3. SOLDER IN ACCORDANCE WITH MIL-STD-2000A, USING SOLDER (ITEM 23).
4. SOLDER IN ACCORDANCE WITH F-341, METHOD 02, USING (ITEM 24).
5. SLEEVE IN ACCORDANCE WITH MIL-I-23053/5 USING INSULATION SLEEVING (ITEM 21, ITEM 42 AND ITEM 44).
6. ENCAPSULATE CONNECTOR (ITEM 3) IN ACCORDANCE WITH MIL-S-23586, TYPE II, GRADE 2, CLASS B-2, USING PRIMER (ITEM 28) AND COMPOUND (ITEM 27). POTTING ENVELOPE SHALL NOT EXCEED THE PERIMETER OF THE CONNECTOR BODY BY MORE THAN .050 MAXIMUM.
7. COAT TERMINAL BOARD (ITEM 13), TERMINAL (ITEM 14) AND SWITCH (ITEM 15) IN ACCORDANCE WITH MIL-A-46146, GROUP II, TYPE I, USING ADHESIVE (ITEM 29).
8. TORQUE ITEM 35 TO 8.0 ±.5 IN-LBS.
9. COAT 100 PERCENT OF MOUNTING HARDWARE, TERMINALS AND EXPOSED LEADS OF MICROCIRCUITS (ITEMS 33 AND 34) AND CAPACITOR(S) (ITEM 35) IN ACCORDANCE WITH MIL-A-46146, GROUP II, TYPE I, USING PRIMER (ITEM 28) AND ADHESIVE (ITEM 29). COATING THICKNESS SHALL NOT EXCEED .10.
10. COAT 100 PERCENT CASE SURFACE OF MICROCIRCUIT (ITEM 34) IN ACCORDANCE WITH MIL-A-46146, GROUP II, TYPE I, USING PRIMER (ITEM 28) AND ADHESIVE (ITEM 29). COATING SHALL NOT EXCEED THE PERIMETER OF THE MICROCIRCUIT BODY BY MORE THAN .10 MAXIMUM.
11. TIE ALL SHIELDS (ITEM 25) TOGETHER AT CABLE JUNCTIONS USING STRAP (ITEM 30) AND WIRE (ITEM 22) IN ACCORDANCE WITH NOTE 1.
12. MARKING MARK THE FOLLOWING IN .08 MINIMUM HIGH CHARACTERS, METHOD LABEL, IN ACCORDANCE WITH MIL-STD-130, USING MARKER (ITEM 12).
    A. "30003ASSY3181AS16074-1".
    B. "98214ASSY4216074-1 REV [ ]".
    C. "MFG SEQ NO [ ]". — TI REVISION LETTER
    D. "PP".
    E. "PIE" "(JS)". — NON-REPEATING MANUFACTURING SEQUENCE NUMBER
    F. "INTLK PWR".
    G. "INTLK RTN".
    H. "SWITCH PWR".
    I. "SWITCH RTN".
    J. "P4".
    K. "P3".
    L. "P2".
    M. "P5".
    N. "P7" "(J4)".
    P. "P6" "(J1)".
13. ELECTROSTATIC DISCHARGE CONTROL PROGRAM FOR PROTECTION OF ELECTRICAL DOD-STD-1686 AND DOD-HDBK-263, EQUIPMENT SHALL BE IN ACCORDANCE WITH DOD-STD-1686 AND DOD-HDBK-263, CLASS 3.
14. ALL WIRING AND COMPONENTS SHALL BE CONTAINED WITHIN ENVELOPE SHOWN.
15. WIRE BRAID SHALL ENCOMPASS ENTIRE LENGTH OF CABLE AND SHALL BE SECURED UNDER BACKSHELLS (ITEMS 9, 10 AND 11) TO ENSURE CONTACT WITH BACKSHELLS. TAPE (ITEM 43) SHALL BE USED OVER BRAID TO PREVENT CONTACT WITH ITEMS 5, 17 AND 18.

CAUTION
SENSITIVE ELECTRONIC DEVICES

AR	45	98214	808853-2	SLEEVING		7
AR	44		M23053/5-101-0	INSULATION SLEEVING	MIL-I-23053	
AR	43		CLR BLK	TAPE	MIL-I-15126	
AR	42		M23053/5-108-0	INSULATION SLEEVING	MIL-I-23053	
4	41		MS35649-264	NUT		
4	40		MS35333-71	WASHER		
4	39		NAS620C8	WASHER		
4	38	98214	532720-3	WASHER		7
2	37	98214	532002-1	INSULATOR		7
4	36		MS51957-29	SCREW		
4	35		M39003/01-8073	CAPACITOR (22 uf, 20VDC,OPC1)	MIL-C-39003/1	
1	34		M38510/19058BYX	MICROCIRCUIT	MIL-M-38510/115	
1	33		M38510/07108BYX	MICROCIRCUIT	MIL-M-38510/107	
1	32		3181AS16088-1	MOUNT		
AR	31		0085758361025	BRAID	QQ-B-575	
AR	30		MS3367-4-9	STRAP		11
AR	29		M46146/1ATN	ADHESIVE	MIL-A-46146	7,8,9
AR	28	98214	2697749-2	PRIMER		7,8,9
AR	27		M572586-4-2-82	COMPOUND		6
AR	26	98214	2697745-1	PRIMER		10
AR	25		0085758361375	BRAID	QQ-B-575	11
AR	24		M81531/1-3	SPLICE	MIL-T-81531/1	
AR	23	98214	4180395-1025	SOLDER		
AR	22		M22759/43-22-9	WIRE	MIL-W-22759/43A	11
AR	21		M23053/5-103-0	INSULATION SLEEVING	MIL-I-23053/5	5
AR	20	98214	808853-3	SLEEVING		7
1	19		M85049/48-2-24	CONNECTOR ACCESSORIES	MIL-C-85049/48	
1	18		M85049/38-25A	CONNECTOR BACKSHELL	MIL-C-85049/38	
1	17	98214	2697241-8	CONNECTOR		7
2	16		RJ82CX100FR	RESISTOR (1 K OHM)	MIL-R-39007/1	
1	15		MS24658-23T	TOGGLE SWITCH		
11	14		MS35439-3	TERMINAL		
1	13		381848	TERMINAL BOARD	MIL-T-55164/2	
13	12	98214	539269-101	MARKER		7
1	11		M85049/48-3-3F	CONNECTOR	MIL-C-85049/48	
2	10		M85049/48-2-2F	CONNECTOR	MIL-C-85049/48	
1	9		M85049/48-2-8F	CONNECTOR	MIL-C-85049/48	
1	8	98214	532564-1	CONNECTOR		7
1	7	98214	532637-1	CONNECTOR		7
1	6		M24308/2-8	CONNECTOR	MIL-C-24308/2	
1	5	98214	2670027-1	CONNECTOR		7
1	4		M24308/1-2	CONNECTOR	MIL-C-24308/1	
1	3		D38999/20WA35SN	CONNECTOR	MIL-C-38999/20	
1	2		D38999/26WC8PN	CONNECTOR	MIL-C-38999/26	
1	1		D38999/26WJ8PN	CONNECTOR	MIL-C-38999/26	

PARTS LIST

PROM
DSGN
DWG
QA
MATL
RELBL

DEPARTMENT OF THE NAVY
NAVAL AIR SYSTEMS COMMAND
WASHINGTON, DC 20360

WIRING HARNESS,
STRUCTURAL TEST VEHICLE-C

SIZE A | CAGE CODE | DWG NO 3181AS16074
SCALE 1/1 | WEIGHT | SHEET 1 OF 9

REV 1 2 3 4 5 6 7 8 9
REVISION STATUS OF SHEETS

TEXAS INSTRUMENTS
SHALES TEXAS
CAGE CODE 98214
CONTR NO. N00039-91-C-0169

3181AS16028
NEXT ASSY

10.3 File D001Q003

10.3.1 Parser/Verifier Log

```
************************************
*****  IGES PARSER/VERIFIER   *****
*****       MARCH 1994        *****
*****   IGES Data Analysis    *****
*****     (708) 344-1815      *****
************************************

Input file is d001q003.igs
Checking conformance to CALS Class II (MIL-D-28000A 2/10/92)
Today is August 16, 1994  11:24 AM

************************************
*****    CHECK FILE SYNTAX    *****
************************************

   Section        Records

   Start             12
   Global             5
   Directory       1882  (    941 Entities)
   Parameter       2055
   Terminate          1

   No syntax errors detected.

************************************
*****  SUMMARY AND STATISTICS  ****
************************************

*** File and Product Name Information ***

   File name from sender    = '/usr2/cadds/parts/scr/4216074-c/3.igs'
   File creation Date.Time  = '940719.104710'
   Model change Date.Time   = '940719.104704'
   Author                   = 'mda drafting'
   Department               = 'ti-lewisville'
   Product name from sender = '/usr2/cadds/parts/scr/4216074-c/3'
   Destination product name = '/usr2/cadds/parts/scr/4216074-c/3'
```

```
 *** Parameter Delimiters ***

    Delimiter  = ','
    Terminator = ';'

 *** Originating System Data ***

    System ID             = 'AutoCAD-12_c3 (Sun4/SPARCstation)'
    Preprocessor version  = 'IGESOUT (v5.1.01 Feb 22 1993)'
    Specification version = 9 (IGES 5.1)
ERROR   4048: Illegal specification version for CALS Class II specified.

 *** Precision levels ***
    Integer bits =    32
    Floating point  -  Exponent =    38  Mantissa =     6
    Double precision - Exponent =    99  Mantissa =    15

 *** Global Model Data ***

    Model scale            =  1.0000E+00
    Unit flag              =  1
    Units                  =  'IN'
    Line weights           =  32767
    Maximum line thickness =  3.276700E+01
    Minimum line thickness =  1.000000E-03
    Granularity            =  3.300000E-08
    Maximum coordinate     =  3.300000E+01

    Drafting standard applicable to original data is not specified.

 *** Status Flag Summary ***

  Blank status: Visible                    941
                Blanked                      0

  Independence: Independent                688
                Physically Subordinate     252
                Logically Subordinate        1
                Totally Subordinate          0

  Entity use:   Geometry                   763
                Annotation                 174
                Definition                   4
                Other                        0
                Logical/Positional           0
                2D parametric                0
                Construction geometry        0
                Not Specified                0
```

Hierarchy:	Structure DE applies	820
	Subordinate DE applies	121
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	4	63	Circular arc
100	0	5	56	
102	0	5	50	Composite curve
106	11	4	8	Copious data - Piecewise planar, linear string (2D linear path)
106	63	0	5	Simple closed planar curve
106	63	4	2	
106	63	5	41	
110	0	2	46	Line
110	0	4	248	
110	0	5	167	
110	0	6	8	
110	0	7	8	
124	0	0	28	Transformation matrix
212	0	1	19	General note
212	0	2	25	
212	0	3	5	
212	0	5	46	
212	0	7	19	
212	2	5	12	General note - imbedded font change dimension
230	0	0	5	Sectioned area (Standard Crosshatching)
230	0	5	41	
308	0	0	4	Subfigure definition
404	0	0	1	Drawing
406	3	0	1	Property - Level function
406	3	1	1	
406	3	2	1	
406	3	3	1	
406	3	4	1	
406	3	5	1	
406	3	6	1	
406	3	7	1	
406	5	0	1	Property - Line widening
406	15	0	1	Property - Name
406	16	0	1	Property - Drawing size
406	17	0	1	Property - Drawing units
408	0	2	1	Single subfigure instance
408	0	4	5	

```
  408        0        5       15
  410        0        0        1     View - Orthographic parallel

*** Entity Count by Level ***

    Level  Count
        0     49
        1     20
        2     73
        3      6
        4    327
        5    429
        6      9
        7     28

 *** Labeling Information ***

    0% of the entities are labeled.

    Unlabeled     941

 *** Line Fonts Used in Data ***

 100   102   104   106   108   110   112   114

  -     -     -     -     -     -     -     -   Undefined
 119    50    -     56    -    465    -     -   Solid
  -     -     -     -     -     -     -     -   Dashed
  -     -     -     -     -      4    -     -   Phantom
  -     -     -     -     -      8    -     -   Center-line
  -     -     -     -     -     -     -     -   Dotted
  -     -     -     -     -     -     -     -   User defined

 116   118   120   122   124   125   126   128

  -     -     -     -    28     -     -     -   Undefined
```

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

```
 *** Line Widths Used in Data ***

     Weight       Count      Width

  Defaulted       941       (0.0010)
```

```
*** Colors Used in Data ***

 Defaulted       46
     Green        4
      Blue       21
    Yellow      481
   Magenta        8
     White      381

************************************
*****     ENTITY ANALYSIS     *****
************************************

*** Entity type: 100

*** Entity type: 102

*** Entity type: 106

*** Entity type: 110

 --   477 lines averaging 1.423220E+00 units --

*** Entity type: 124

28 transformation matrices, 20 non-zero translations.
NOTE    2341: 20 matrices contain translation information.

*** Entity type: 212

      153 text strings in data file.
      Average text aspect ratio in file is 0.7535013.
      Minimum text aspect ratio in file is 0.2400000.
      Maximum text aspect ratio in file is 1.1555556.

      FONTS USED IN FILE

      FONT   COUNT   NAME

      1003     153   Drafting Font

*** Entity type: 230
```

```
 *** Entity type: 308

  Subfigure name at D    205: 'JSOWD2'.
    Number of included entities = 94.
  Subfigure name at D    533: 'ARROW'.
    Number of included entities = 1.
  Subfigure name at D    697: 'MARKING'.
    Number of included entities = 1.
  Subfigure name at D   1443: 'HW-36'.
    Number of included entities = 2.

 *** Entity type: 404

Drawing at D   1881 contains 1 views.
Drawing at D   1881 contains 0 annotation entities.

 *** Entity type: 406

Independent property at D      5 applies to level 1.
Independent property at D     21 applies to level 2.
Independent property at D    145 applies to level 0.

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

 *** Entity type: 408

  Subfigure instance at D    207 references subfigure at D    205.
  Subfigure instance at D    537 references subfigure at D    533.
  Subfigure instance at D    575 references subfigure at D    533.
  Subfigure instance at D    599 references subfigure at D    533.

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

 *** Entity type: 410

  Scale of view at D      1 is 1.000000E+00.
Orthographic View entity at D      1 has  0 clipping planes specified.
   XMIN = Not Set       XMAX = Not Set
   YMIN = Not Set       YMAX = Not Set
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***

4011: 1 Problems in the Global section
```

```
*** Error Summary ***

    0 fatal errors
    0 severe errors
    1 errors
    0 warnings
    0 cautions
    0 nitpicks
    1 notes

*** End of Analysis of d001q003.igs ***
```

10.3.2 Parser Log - IGESWorks

International TechneGroup Incorporated
Validation Logfile

Date: Tuesday August 16, 1994, 03:43 PM
Model: d001q003.igs

********** Validation Parameters **********

TOLERANCE CONFIGURATION VALUES

ZERO_TOL	= 1.000000e-13
MODEL_SPACE_PNT_COIN_TOL	= 1.000000e-03
EPSILON_TOL	= 1.000000e-08
PARM_SPACE_PNT_COIN_TOL	= 1.000000e-08
ISO_PARM_CURVE_TOL	= 1.000000e-08
NON_CONV_TOL	= 1.000000e-12
KNOT_COIN_TOL	= 1.000000e-10
SAME_INTER_TOL	= 1.000000e-12
PARALLEL_LINES_TOL	= 1.000000e-07
ANGLE_COIN_TOL	= 1.000000e-05
PNT_PROJ_TOL	= 1.000000e-07
COLIN_TOL	= 1.000000e-07
COPLANAR_TOL	= 1.000000e-08
ZERO_NORMAL_TOL	= 1.000000e-06
SAME_TANGENT_TOL	= 1.000000e-04
SAME_CURVATURE_TOL	= 1.000000e-04
SAME_DERIVATIVE_TOL	= 1.000000e-03
SINGULAR_TOL	= 1.000000e-10
MODEL_LINEAR_APPROX_TOL	= 1.000000e-03

********** Entity Listing Before Validation **********

Count	Type	Form	Description
119	100	0	Circular Arc
50	102	0	Composite Curve
8	106	11	Planar Piecewise Linear Curve
48	106	63	Simple Closed Planar Curve
477	110	0	Line
28	124	0	Transformation Matrix
114	212	0	General Note (Simple)
12	212	2	General Note (Font change)
46	230	0	Section Area (Standard Fill)
4	308	0	Subfigure Definition
1	404	0	Drawing (form 0)

8	406	3	Property (Level Function)
1	406	5	Property (Line Widening)
1	406	15	Property (Name)
1	406	16	Property (Drawing Size)
1	406	17	Property (Drawing Units)
21	408	0	Subfigure Instance
1	410	0	View

941 - Number of entities in selection list

********** Key to Validation Level Descriptions **********

Severity 4 - Explicit Error
Severity 3 - Implicit Error
Severity 2 - Explicit Warning
Severity 1 - Implicit Warning

********** Entity Validation **********
========== Entities Which Were Corrected ==========
========== Entities Which Were Not Corrected ==========

****

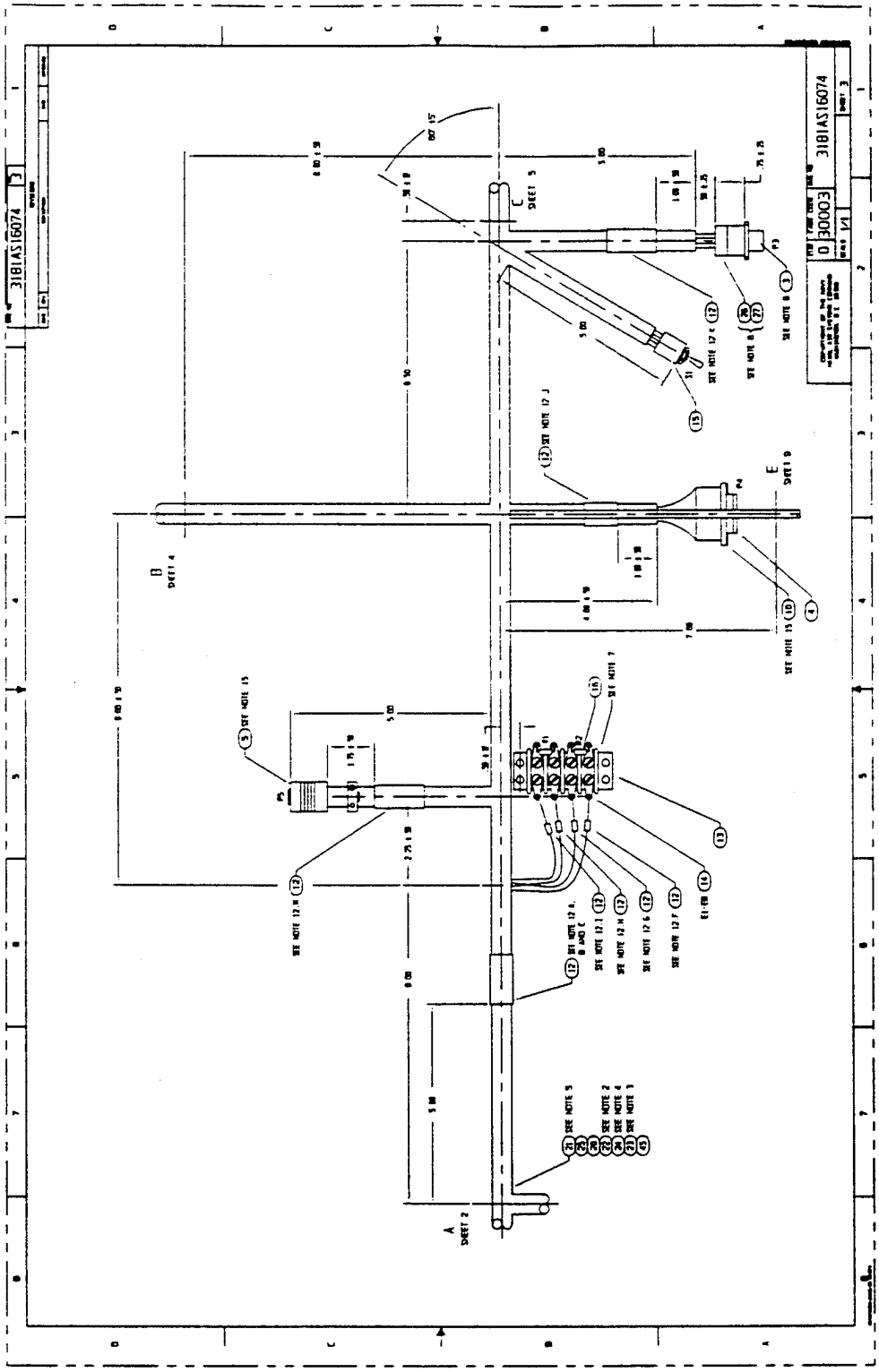
Entity Validation Summary:

Type	Form	Entity Count	Number Valid	Number of Corrected Warnings	Number of Corrected Errors	Number of Uncorrected Warnings	Number of Uncorrected Errors
Global	Section	1	1	0	0	0	0
100	0	119	119	0	0	0	0
102	0	50	50	0	0	0	0
106	11	8	8	0	0	0	0
106	63	48	48	0	0	0	0
110	0	477	477	0	0	0	0
124	0	28	28	0	0	0	0
212	0	114	114	0	0	0	0
212	2	12	12	0	0	0	0
230	0	46	46	0	0	0	0
308	0	4	4	0	0	0	0
404	0	1	1	0	0	0	0
406	3	8	8	0	0	0	0
406	5	1	1	0	0	0	0
406	15	1	1	0	0	0	0
406	16	1	1	0	0	0	0
406	17	1	1	0	0	0	0
408	0	21	21	0	0	0	0
410	0	1	1	0	0	0	0
Totals:		942	942	0	0	0	0

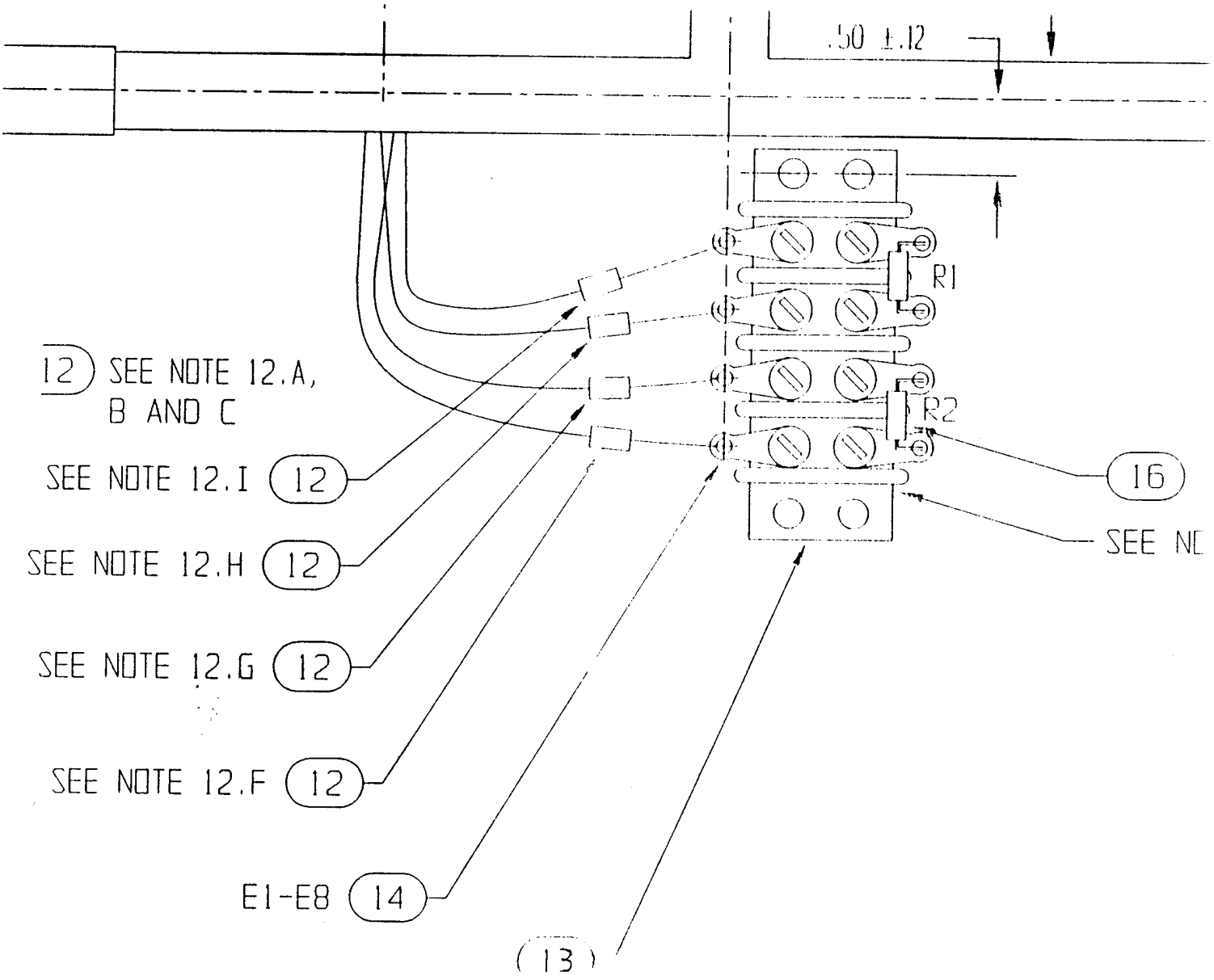
10.3.3 Error Log Preview

```
            ERROR REPORT FOR FILE  d001q003.igs

     >> File record length is 80
     Terminate section report :
                    File Section     #lines
               +-------------------------------+
               |            START        12    |
               |           GLOBAL         5    |
               |  DIRECTORY ENTRY      1882    |
               |   PARAMETER DATA      2055    |
               |        TERMINATE         1    |
               |                               |
               |          TOTAL        3955    |
               +-------------------------------+
               (Expect 80 X 3955 = 316400 bytes)

     -------------- preliminary format scan complete --------------

>> WARNING: Sectioned Area type 19 not supported
      : Reading entity #74, DE entry #147 type SECTIONED AREA.
      : Field 2, line 113 of PARAMETER DATA section.
230,143,19,0.0D0,0.0D0,0.0D0,0.0D0,0.0D0,0;                    147P    113110
^^
      ------------------------------------------------------------------------
>> WARNING: Sectioned Area type 19 not supported
      : Reading entity #78, DE entry #155 type SECTIONED AREA.
      : Field 2, line 118 of PARAMETER DATA section.
230,153,19,0.0D0,0.0D0,0.0D0,0.0D0,0.0D0,0;                    155P    118106
^^
      ------------------------------------------------------------------------
                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 74 for graphic output.
      ------------------------------------------------------------------------
>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 78 for graphic output.
      ------------------------------------------------------------------------

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 925 for graphic output.
      ------------------------------------------------------------------------
     Found 0 errors and 106 warnings
```

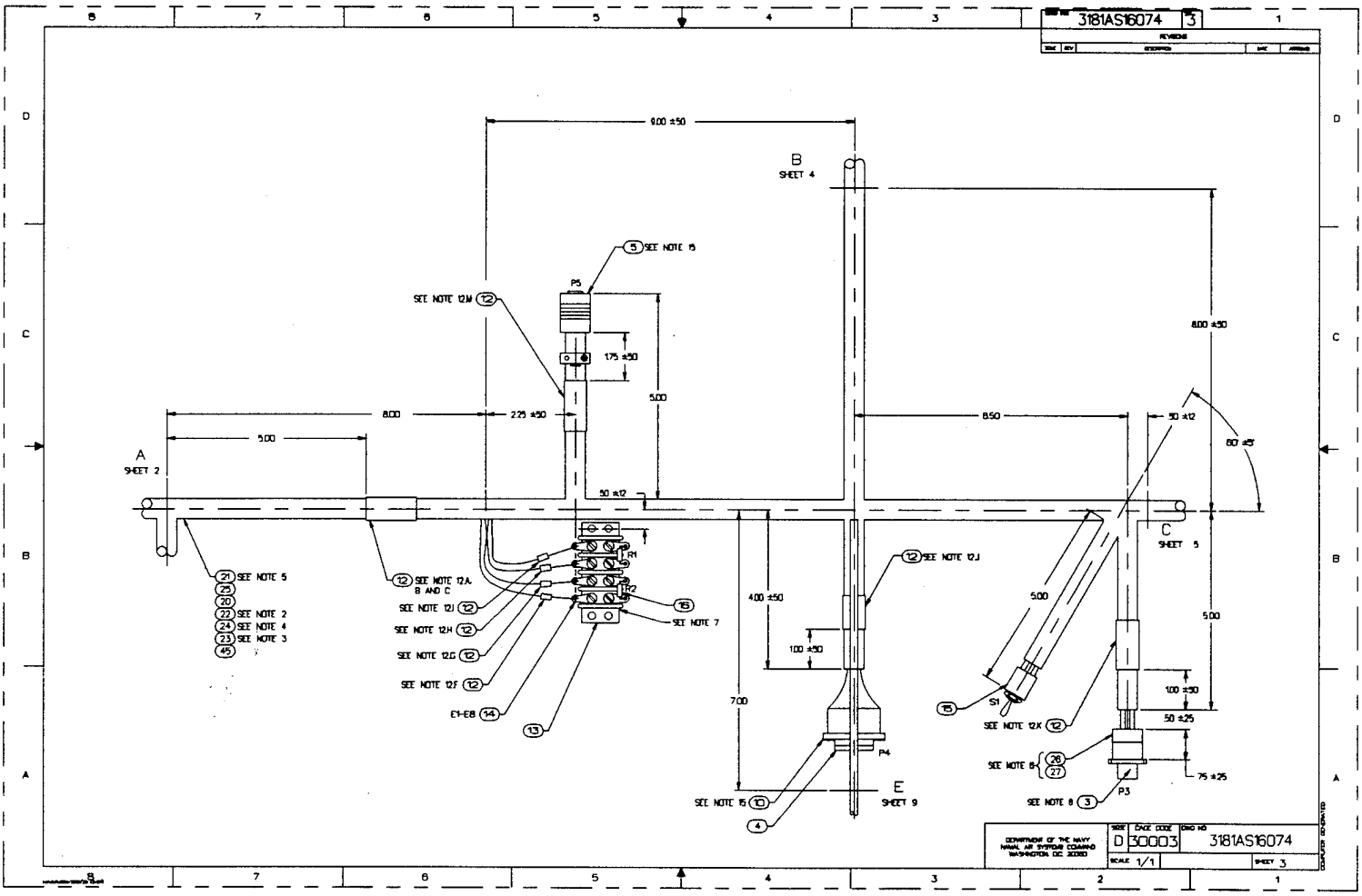
10.3.4 Output Cadkey v6.0



10.3.5 Output Cadkey v6.0 Detail



10.3.6 Output CALSView for Windows



10.4 File D001Q004

10.4.1 Parser/Verifier Log

```
************************************
*****  IGES PARSER/VERIFIER   *****
*****       MARCH 1994        *****
*****   IGES Data Analysis    *****
*****     (708) 344-1815      *****
************************************

Input file is d001q004.igs
Checking conformance to CALS Class II (MIL-D-28000A 2/10/92)
Today is August 16, 1994  11:24 AM

************************************
*****    CHECK FILE SYNTAX    *****
************************************

   Section        Records

   Start             32
   Global             5
   Directory       1880  (    940 Entities)
   Parameter       2053
   Terminate          1

   No syntax errors detected.

************************************
*****  SUMMARY AND STATISTICS  ****
************************************

*** File and Product Name Information ***

   File name from sender     = '/usr2/cadds/parts/scr/4216074-c/3.igs'
   File creation Date.Time   = '940803.105354'
   Model change Date.Time    = ''
   Author                    = 'mda drafting'
   Department                = 'ti-lewisville'
   Product name from sender = '/usr2/cadds/parts/scr/4216074-c/3'
   Destination product name = '/usr2/cadds/parts/scr/4216074-c/3'
```

```
*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID              = 'AutoCAD-12_c3 (Sun4/SPARCstation)'
   Preprocessor version   = 'IGESOUT (v5.1.01 Feb 22 1993)'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***
   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15

*** Global Model Data ***

   Model scale            =  1.0000E+00
   Unit flag              =  1
   Units                  =  'IN'
   Line weights           =  32767
   Maximum line thickness =  3.276700E+01
   Minimum line thickness =  1.000000E-03
   Granularity            =  3.300000E-08
   Maximum coordinate     =  3.300000E+01

   Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

 Blank status: Visible                    940
               Blanked                      0

 Independence: Independent                688
               Physically Subordinate     251
               Logically Subordinate        1
               Totally Subordinate          0

 Entity use:   Geometry                   762
               Annotation                 174
               Definition                   4
               Other                        0
               Logical/Positional           0
               2D parametric                0
               Construction geometry        0
               Not Specified                0
```

Hierarchy:		
	Structure DE applies	819
	Subordinate DE applies	121
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	4	63	Circular arc
100	0	5	56	
102	0	5	50	Composite curve
106	11	4	8	Copious data - Piecewise planar, linear string (2D linear path)
106	63	0	5	Simple closed planar curve
106	63	4	2	
106	63	5	41	
110	0	2	46	Line
110	0	4	248	
110	0	5	167	
110	0	6	8	
110	0	7	8	
124	0	0	28	Transformation matrix
212	0	1	19	General note
212	0	2	25	
212	0	3	5	
212	0	5	46	
212	0	7	19	
212	2	5	12	General note - imbedded font change dimension
230	0	0	5	Sectioned area (Standard Crosshatching)
230	0	5	41	
308	0	0	4	Subfigure definition
404	0	0	1	Drawing
406	3	0	1	Property - Level function
406	3	1	1	
406	3	2	1	
406	3	3	1	
406	3	4	1	
406	3	5	1	
406	3	6	1	
406	3	7	1	
406	15	0	1	Property - Name
406	16	0	1	Property - Drawing size
406	17	0	1	Property - Drawing units
408	0	2	1	Single subfigure instance
408	0	4	5	
408	0	5	15	
410	0	0	1	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	48
1	20
2	73
3	6
4	327
5	429
6	9
7	28

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled 940

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
119	50	-	56	-	465	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	4	-	-	Phantom
-	-	-	-	-	8	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	28	-	-	-	Undefined

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	940	(0.0010)

```
 *** Colors Used in Data ***

  Defaulted        45
      Green         4
       Blue        21
     Yellow       481
    Magenta         8
      White       381

 ************************************
 *****     ENTITY ANALYSIS      *****
 ************************************

 *** Entity type: 100

 *** Entity type: 102

 *** Entity type: 106

 *** Entity type: 110

  --    477 lines averaging 1.423220E+00 units --

 *** Entity type: 124

WARNING 2492: Undefined line font value (0) specified for D     203.
WARNING 2492: Undefined line font value (0) specified for D     213. WARNING
2492: Messages regarding undefined line font suppressed.
28 transformation matrices, 20 non-zero translations.
NOTE     2341: 20 matrices contain translation information.

 *** Entity type: 212

       153 text strings in data file.
       Average text aspect ratio in file is 0.7535013.
       Minimum text aspect ratio in file is 0.2400000.
       Maximum text aspect ratio in file is 1.1555556.

       FONTS USED IN FILE

       FONT    COUNT    NAME

       1003      153    Drafting Font

 *** Entity type: 230
```

```
 *** Entity type: 308

  Subfigure name at D      3: 'JSOWD2'.
    Number of included entities = 94.
  Subfigure name at D    205: 'ARROW'.
    Number of included entities = 1.
  Subfigure name at D    227: 'MARKING'.
    Number of included entities = 1.
  Subfigure name at D    283: 'HW-36'.
    Number of included entities = 2.

 *** Entity type: 404

Drawing at D    297 contains 1 views.
Drawing at D    297 contains 0 annotation entities.

 *** Entity type: 406

Independent property at D    787 applies to level 1. Independent property at
D    789 applies to level 2.

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

 *** Entity type: 408

  Subfigure instance at D      1 references subfigure at D      3.
ERROR   2266: Subfigure definition (D      3) follows instance entity at D
              1.
  Subfigure instance at D    201 references subfigure at D    205.
ERROR   2266: Subfigure definition (D    205) follows instance entity at D
              201.
  Subfigure instance at D    211 references subfigure at D    205.
  Subfigure instance at D    215 references subfigure at D    205.
  Subfigure instance at D    219 references subfigure at D    205.
  Subfigure instance at D    223 references subfigure at D    227.
ERROR   2266: Subfigure definition (D    227) follows instance entity at D
              223.
  Subfigure instance at D    231 references subfigure at D    227.
  Subfigure instance at D    235 references subfigure at D    227.

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

ERROR   2266: Subfigure definition (D    283) follows instance entity at D
              279.
  Subfigure instance at D    289 references subfigure at D    205.
  Subfigure instance at D    293 references subfigure at D    205.
```

```
 *** Entity type: 410

  Scale of view at D     305 is 1.000000E+00.
Orthographic View entity at D     305 has  0 clipping planes specified.
   XMIN = Not Set        XMAX = Not Set
   YMIN = Not Set        YMAX = Not Set
   ZMIN = Not Set        ZMAX = Not Set

 *** Message Summary ***

2038: 45 Invalid Line font values.

 *** Error Summary ***

     0 fatal errors
     0 severe errors
     4 errors
    45 warnings
     0 cautions
     0 nitpicks
     1 notes

 *** End of Analysis of d001q004.igs ***
```

10.4.2 Parser Log - IGESWorks

```
            International TechneGroup Incorporated
                      Validation Logfile

Date: Tuesday August 16, 1994, 03:44 PM
Model: d001q004.igs

******************** Validation Parameters ********************

              TOLERANCE CONFIGURATION VALUES
              ------------------------------

ZERO_TOL                    = 1.000000e-13
MODEL_SPACE_PNT_COIN_TOL    = 1.000000e-03
EPSILON_TOL                 = 1.000000e-08
PARM_SPACE_PNT_COIN_TOL     = 1.000000e-08
ISO_PARM_CURVE_TOL          = 1.000000e-08
NON_CONV_TOL                = 1.000000e-12
KNOT_COIN_TOL               = 1.000000e-10
SAME_INTER_TOL              = 1.000000e-12
PARALLEL_LINES_TOL          = 1.000000e-07
ANGLE_COIN_TOL              = 1.000000e-05
PNT_PROJ_TOL                = 1.000000e-07
COLIN_TOL                   = 1.000000e-07
COPLANAR_TOL                = 1.000000e-08
ZERO_NORMAL_TOL             = 1.000000e-06
SAME_TANGENT_TOL            = 1.000000e-04
SAME_CURVATURE_TOL          = 1.000000e-04
SAME_DERIVATIVE_TOL         = 1.000000e-03
SINGULAR_TOL                = 1.000000e-10
MODEL_LINEAR_APPROX_TOL     = 1.000000e-03

************** Entity Listing Before Validation ***************

  Count        Type         Form         Description
  -----        ----         ----         -----------
    119         100            0        Circular Arc
     50         102            0        Composite Curve
      8         106           11        Planar Piecewise Linear Curve
     48         106           63        Simple Closed Planar Curve
    477         110            0        Line
     28         124            0        Transformation Matrix
    114         212            0        General Note (Simple)
     12         212            2        General Note (Font change)
     46         230            0        Section Area (Standard Fill)
      4         308            0        Subfigure Definition
```

1	404	0	Drawing (form 0)
8	406	3	Property (Level Function)
1	406	15	Property (Name)
1	406	16	Property (Drawing Size)
1	406	17	Property (Drawing Units)
21	408	0	Subfigure Instance
1	410	0	View

940 - Number of entities in selection list

********** Key to Validation Level Descriptions **********

Severity 4 - Explicit Error
Severity 3 - Implicit Error
Severity 2 - Explicit Warning
Severity 1 - Implicit Warning

********** Entity Validation **********
========== Entities Which Were Corrected ==========
========== Entities Which Were Not Corrected ==========

****

Entity Validation Summary:

Type	Form	Entity Count	Number Valid	Number of Corrected Warnings	Number of Corrected Errors	Number of Uncorrected Warnings	Number of Uncorrected Errors
Global Section		1	1	0	0	0	0
100	0	119	119	0	0	0	0
102	0	50	50	0	0	0	0
106	11	8	8	0	0	0	0
106	63	48	48	0	0	0	0
110	0	477	477	0	0	0	0
124	0	28	28	0	0	0	0
212	0	114	114	0	0	0	0
212	2	12	12	0	0	0	0
230	0	46	46	0	0	0	0
308	0	4	4	0	0	0	0
404	0	1	1	0	0	0	0
406	3	8	8	0	0	0	0
406	15	1	1	0	0	0	0
406	16	1	1	0	0	0	0
406	17	1	1	0	0	0	0
408	0	21	21	0	0	0	0
410	0	1	1	0	0	0	0
Totals:		941	941	0	0	0	0

10.4.3 Error Log Preview

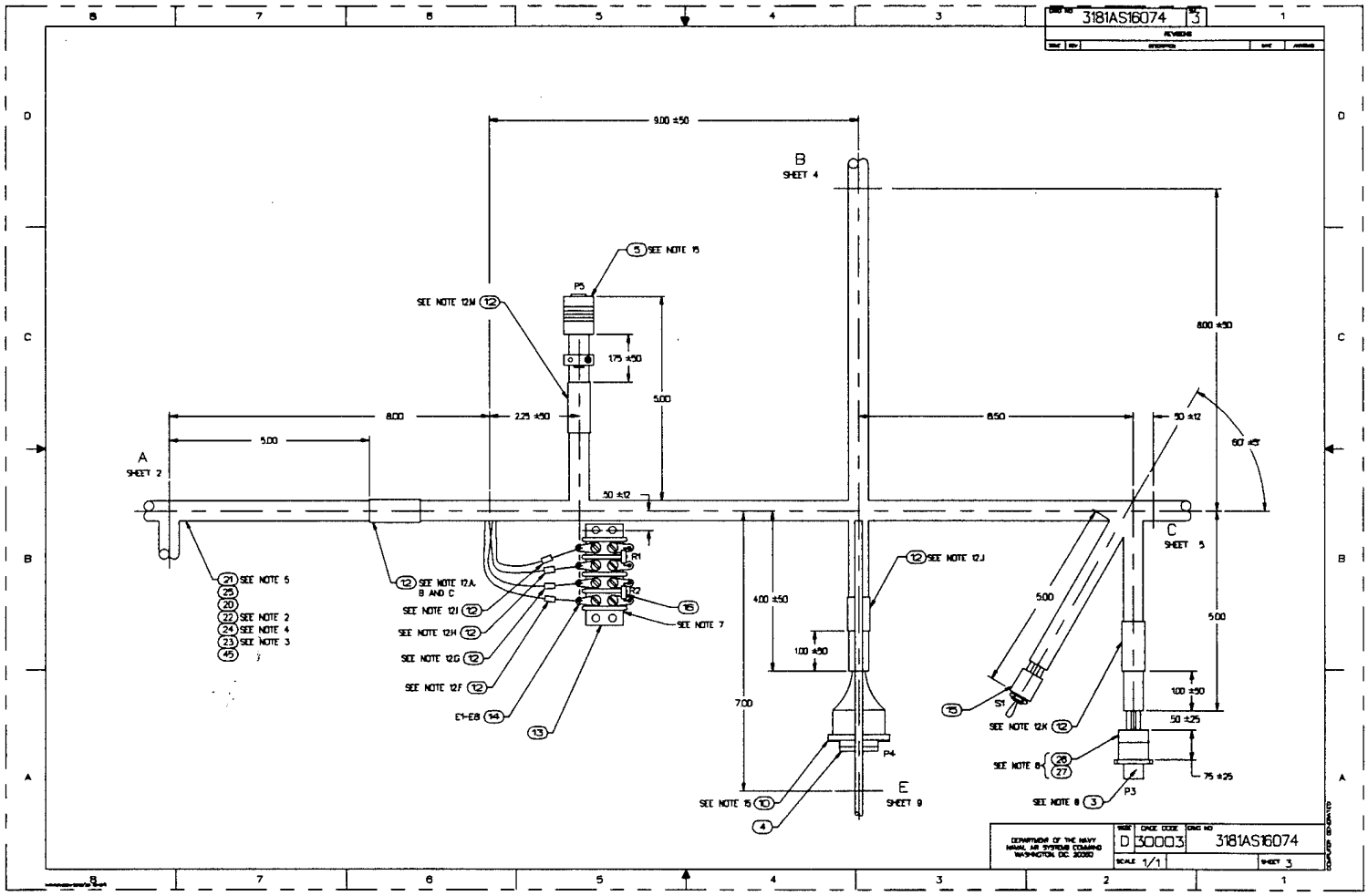
```
            ERROR REPORT FOR FILE  d001q004.igs

     >> File record length is 80
     Terminate section report :

                    File Section     #lines
               +-------------------------------+
               |            START        32    |
               |           GLOBAL         5    |
               |  DIRECTORY ENTRY      1880    |
               |   PARAMETER DATA      2053    |
               |        TERMINATE         1    |
               |                               |
               |          TOTAL        3971    |
               +-------------------------------+
               (Expect 80 X 3971 = 317680 bytes)

     -------------- preliminary format scan complete --------------

>> WARNING: Cannot use maximum power of 10 requested.
      : Requested maximum power of 308 using 307.
      : Field 11 line 3 of GLOBAL section. (Max. Exp. for Double)
1993),32,38,6,308,15,33H/usr2/cadds/parts/scr/4216074-c/3,1.0D0,1,2HIN, G   3
^^^
      ---------------------------------------------------------------------
>> WARNING: Sectioned Area type 19 not supported
      : Reading entity #71, DE entry #141 type SECTIONED AREA.
      : Field 2, line 114 of PARAMETER DATA section.
230,143,19,0.0D0,0.0D0,0.0D0,0.0D0,0.0D0,0;                  141P    114106
^^
      ---------------------------------------------------------------------
>> WARNING: Sectioned Area type 19 not supported
      : Reading entity #75, DE entry #149 type SECTIONED AREA.
      : Field 2, line 119 of PARAMETER DATA section.
230,151,19,0.0D0,0.0D0,0.0D0,0.0D0,0.0D0,0;                  149P    119106
^^
      ---------------------------------------------------------------------

                        <<<<< PART OF LOG FILE REMOVED HERE >>>>>

>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 71 for graphic output.
      ---------------------------------------------------------------------
>> WARNING: Unsupported sectioned area type 19 modified to 16
      : in entity 75 for graphic output.
```

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

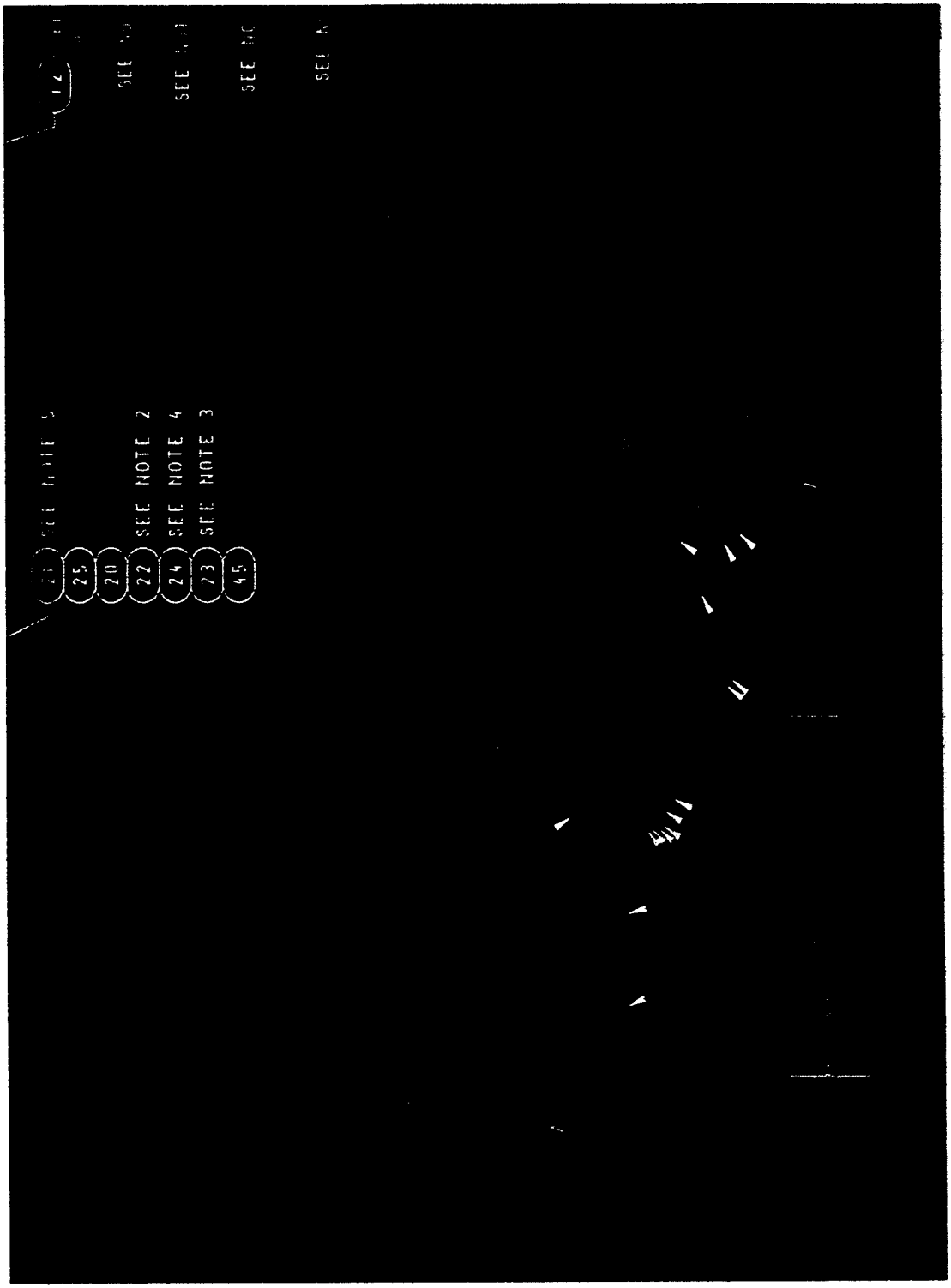
>> WARNING: Unsupported sectioned area type 19 modified to 16
: in entity 234 for graphic output.

Found 0 errors and 107 warnings

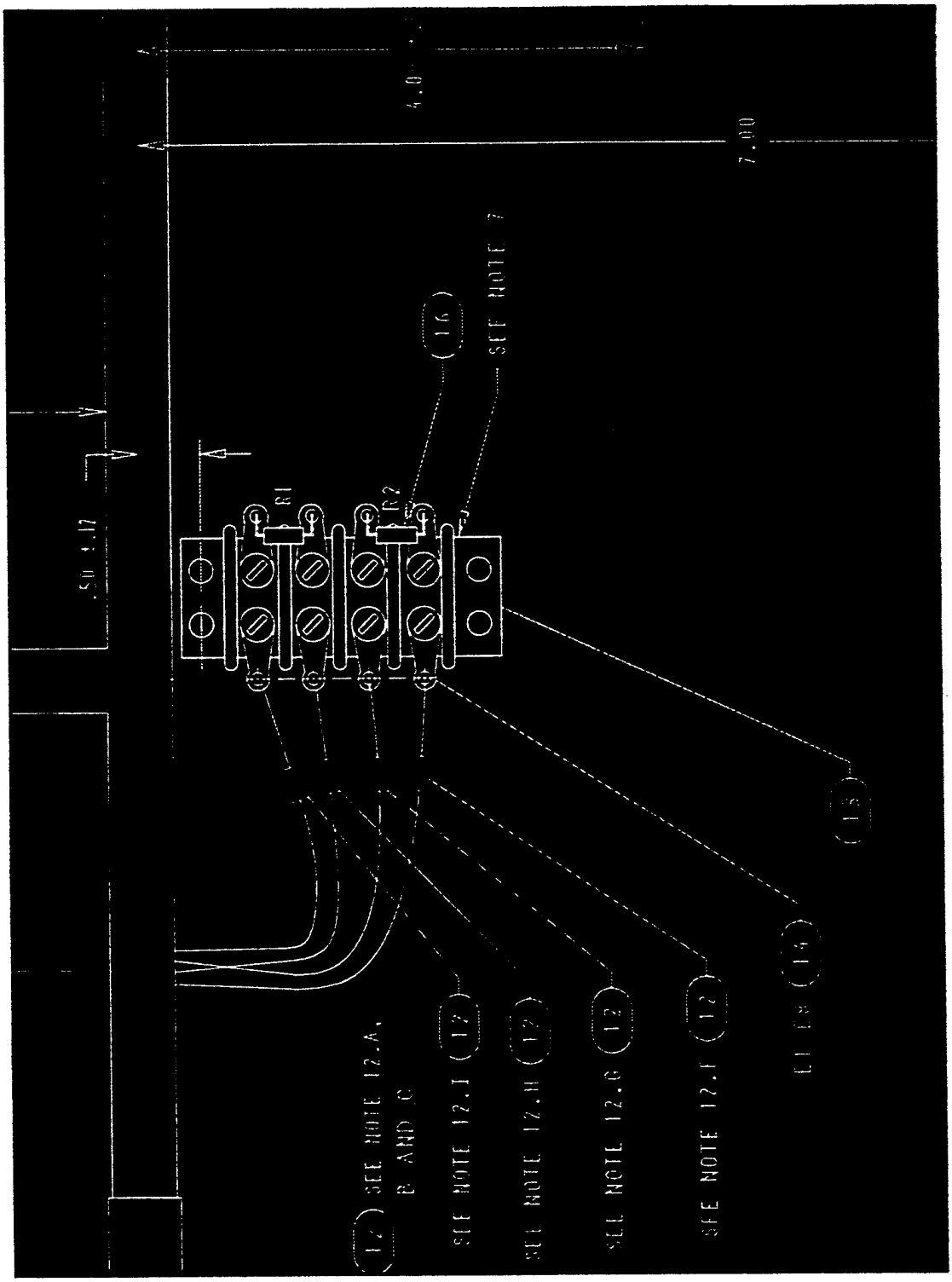
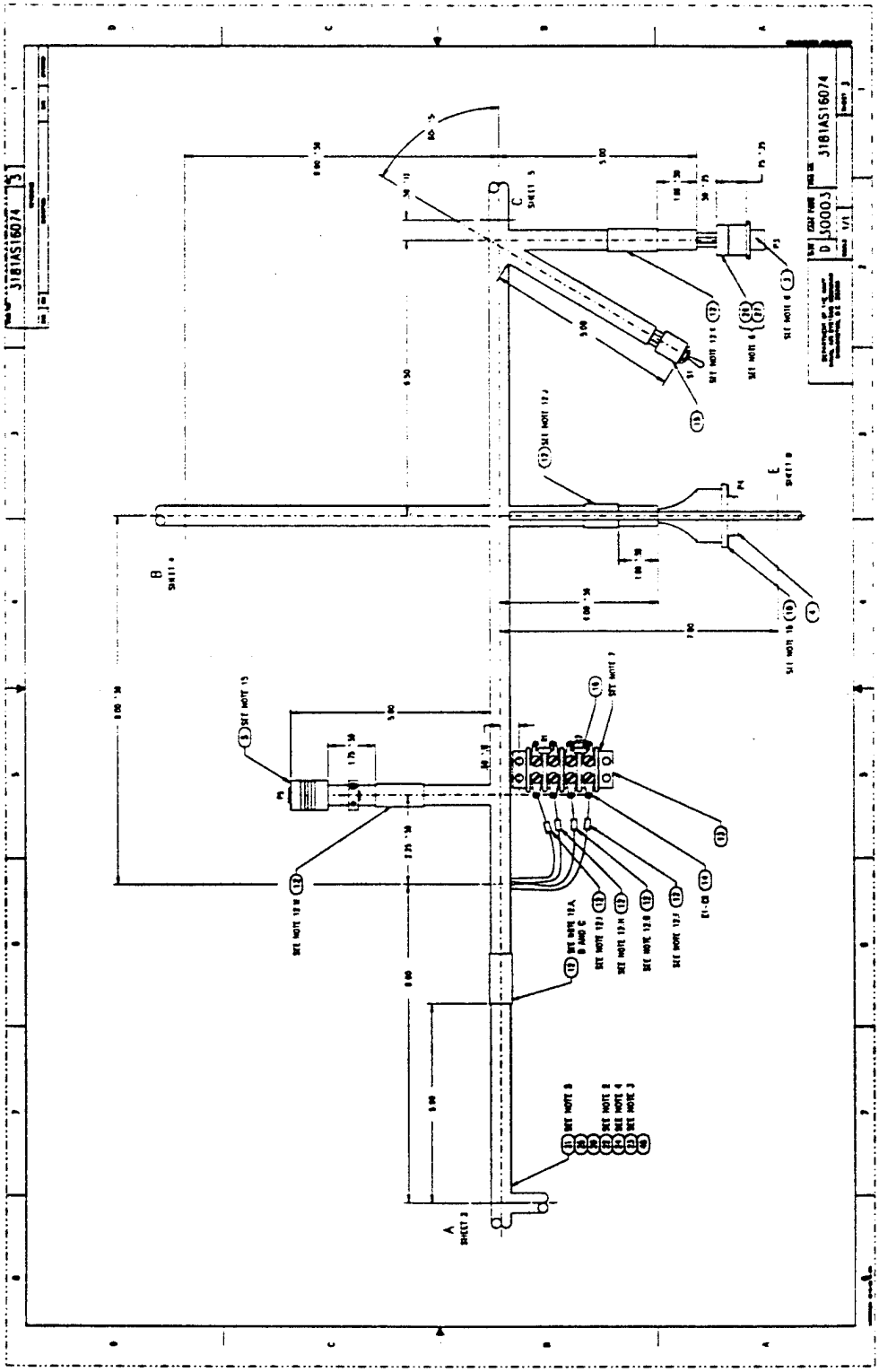
10.4.4 Output CALSView for Windows



10.4.5 Output IGESWorks - Detail Arrowheads



10.4.6 Output IGESWorks - Detail Missing Arrowheads



10.4.7 Output Preview